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VERINATA HEALTH, INC. and ILLUMINA, INC.

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION**

VERINATA HEALTH, INC.,
and
THE BOARD OF TRUSTEES OF THE
LELAND STANFORD JUNIOR
UNIVERSITY
Plaintiffs and
Counterclaim-Defendants,
v.

ARIOSA DIAGNOSTICS, INC.,
and
LABORATORY CORPORATION OF
AMERICA HOLDINGS,
Defendants and
Counterclaim-Plaintiffs.

ILLUMINA, INC.,
Plaintiff,
v.
ARIOSA DIAGNOSTICS, INC.,
Defendant.

Case No. 3:12-cv-05501-SI (consolidated
with Case No. 3:14-cv-01921-SI and Case
No. 3:15-cv-02216-SI)

**PLAINTIFF ILLUMINA, INC.'S
NOTICE OF MOTION AND MOTION
FOR JUDGEMENT AS A MATTER OF
LAW THAT ARIOSA IS BARRED
FROM CHALLENGING VALIDITY
PURSUANT TO THE DOCTRINE OF
ASSIGNOR ESTOPPEL**

Judge: Hon. Susan Illston

1 ILLUMINA, INC.,
2 Plaintiff,
3 v.
4 ARIOSIA DIAGNOSTICS, INC., AND
5 ROCHE MOLECULAR SYSTEMS, INC.,
6 Defendants.

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7 **Rules**

8 Fed. R. Civ. P. 50(a)..... 2

NOTICE OF MOTION

TO ALL PARTIES AND THEIR ATTORNEYS OF RECORD:

PLEASE TAKE NOTICE that as soon as the Court may practically hear before the Honorable Susan Illston, United States District Court, Northern District of California, 450 Golden Gate Ave., Courtroom 1, San Francisco, CA 94102, plaintiff Illumina, Inc. (“Illumina”), will and hereby does move for judgment as a matter of law that Ariosa Diagnostics, Inc. (“Ariosa”) is barred from challenging the validity of U.S. Patent No. 7,955,794 (the “’794 Patent”) pursuant to the doctrine of assignor estoppel.

This motion is based on this notice and supporting memorandum, the trial record, and such other matters of which the Court may take judicial notice.

RELIEF REQUESTED

Illumina respectfully seeks an order that bars Ariosa from challenging the validity of the ’794 Patent pursuant to the doctrine of assignor estoppel.

MEMORANDUM OF POINTS AND AUTHORITIES

I. INTRODUCTION

Ariosa infringes the '794 Patent with its Harmony prenatal diagnostic test. Two key developers of Harmony, John Stuelpnagel and Arnold Oliphant, are named inventors of the '794 Patent, which they duly assigned to their former employer, Illumina. They did so voluntarily, attesting under oath that they were inventors. After leaving Illumina, both helped to found Ariosa. Now, years after assigning their invention to Illumina, Drs. Stuelpnagel and Oliphant seek to undo that history, asking the Court to find their work a nullity. But because both inventors are in privity with Ariosa, the doctrine of assignor estoppel prohibits Ariosa from challenging the validity of the '794 Patent.

Ariosa's only response to this bar is a contrived argument that neither person actually invented the '794 Patent. This argument ignores that for assignor estoppel to apply, all that matters is that Drs. Stuelpnagel and Oliphant assigned away their rights in the '794 Patent to Illumina. Even so, Ariosa cannot prove that they are not inventors. Neither Drs. Stuelpnagel nor Oliphant—both listed on the face of the '794 Patent—ever challenged their inventorship until Illumina accused Ariosa of infringement. And neither witness provided any testimony clearly and convincingly establishing they are not now inventors. To the contrary, their endless wavering on the stand regarding what they did and did not contribute falls far short of the heavy burden they bear. Their sudden change of tune on inventorship is simply an argument of convenience—they want their more recent employer, Ariosa, to challenge the validity of the very patent they never previously denied inventing. But because they indisputably contributed to the invention of the '794 Patent, as the evidence at trial confirmed, Illumina is entitled to judgment as a matter of law that Ariosa is precluded from challenging its validity. No reasonable jury could find otherwise.

II. LEGAL STANDARD

A. Judgement as a Matter of Law

Rule 50(a) provides for judgement as a matter of law where “a party has been fully heard on an issue during jury trial and the court finds that a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue.” Fed. R. Civ. P. 50(a). “A party is

entitled to judgement as a matter of law if, under the governing law, there can be but one reasonable conclusion as to the verdict, and that is a finding in favor of the moving party.” *Mformation Techs., Inc. v. Research in Motion Ltd.*, No. 08-04990, 2012 WL 3222237, at *1 (N.D. Cal. Aug. 8, 2012) (citing *Winarto v. Toshiba Am. Elecs. Components, Inc.*, 274 F.3d 1276, 1283 (9th Cir. 2001)). In reviewing a motion for judgement as a matter of law, “the Court must draw all reasonable inferences in favor of the nonmoving party, and determine whether reasonable minds could come to a single conclusion in favor of the moving party.” *MediaTek Inc. v. Freescale Semiconductor, Inc.*, No. 11-5341, 2014 WL 4643947, at *1 (N.D. Cal. Sept. 17, 2014) (citing *E.E.O.C. v. Go Daddy Software, Inc.*, 581 F.3d 951, 961 (9th Cir. 2009)).

B. Assignor Estoppel

“Assignor estoppel is an equitable doctrine that prevents one who has assigned the rights to a patent (or patent applicable) from later contenting that what was assigned is a nullity. The estoppel also operates to bar other parties in privity with the assignor, such as a corporation founded by the assignor.” *Diamond Sci. v. Ambico*, 848 F.2d 1222, 1224 (Fed. Cir. 1998). The estoppel also bars infringers who avail themselves “of the inventor’s knowledge and assistance to conduct infringement.” *Brocade Comm’ns Sys., Inc. v. A10 Networks, Inc.*, No. 10-CV-03428-LHK, 2012 WL 2326064, at *4 (N.D. Cal. June 18, 2012) (citing *Intel Corp. v. U.S. Int’l Trade Comm’n*, 946 F.2d 821, 839 (Fed. Cir. 1991)). “Without *exceptional circumstances* (such as an express reservation by the assignor of the right to challenge the validity of the patent or an express waiver by the assignee of the right to assert assignor estoppel), one who assigns a patent surrenders with that assignment the right to later challenge the validity of the assigned patent.” *Mentor Graphics Corp. v. Quickturn Design Sys., Inc.*, 150 F.3d 1374, 1378 (Fed. Cir. 1998) (emphasis added).

The proper assignor estoppel inquiry is the patent’s specification—not the patent claims asserted in the case, or even the patent claims more generally. *See Diamond Sci.*, 848 F.2d at 1226. The Federal Circuit recently “emphasized the continued vitality of the doctrine of assignor estoppel.” *Mentor Graphics Corp. v. EVE-USA, Inc.*, 851 F.3d 1275, 1283 (Fed. Cir. 2017) (affirming grant of summary judgment that assignor estoppel applies).

C. Inventorship

“Determining inventorship is nothing more than determining who conceived the subject matter at issue, whether that subject matter is recited in a claim in an application or in a count in an interference.” *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994). “Patent issuance creates a presumption that the named inventors are the true and only inventors.” *Caterpillar Inc. v. Sturman Indus., Inc.*, 387 F.3d 1358, 1377 (Fed. Cir. 2004) (citing *Hess v. Advanced Cardiovascular Sys., Inc.*, 106 F.3d 976, 980 (Fed. Cir. 1997)). A party may rebut this presumption by proving with clear and convincing evidence that he is not properly named as an inventor. *See Univ. of Pittsburg of Commonwealth Sys. of Higher Educ. v. Hendrick*, Civ. A. No. 04-CV-9014, 2008 WL 8627085, at *7 (C.D. Cal. June 9, 2008) (citing *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1358-59 (Fed. Cir. 2004)).

III. ARIOSIA IS BARRED FROM CHALLENGING THE VALIDITY OF THE ’794 PATENT PURSUANT TO THE DOCTRINE OF ASSIGNOR ESTOPPEL

The only facts that would negate assignor estoppel concern (1) whether Stuelpnagel and Oliphant lacked privity with Ariosa, or (2) whether Stuelpnagel and Oliphant clearly and convincingly did not invent the ’794 Patent. Their testimony at trial conclusively failed both tests, and no reasonable jury could have a legally sufficient evidentiary basis to find otherwise.

A. No Reasonable Jury Could Find That Ariosa Is Not In Privity With Drs. Stuelpnagel and Oliphant

Privity among Ariosa, and Drs. Stuelpnagel and Oliphant is not disputed. *See* D.I. 517 at 21:9-10 (“It is undisputed that Ariosa is in privity with Stuelpnagel and Oliphant”) (citing to Hearing Tr. (D.I. 486, 487), at 50:16); *see also* Hearing Tr. (D.I. 486, 487) at 50:14-20 (“THE COURT: Right. So do you agree that Oliphant and Stuelpnagel are in privity with Ariosa? [Ariosa]: So the privity is not being disputed. Yes, Your Honor.”).

At trial, Dr. Stuelpnagel freely admitted that he was a founder and previously Executive Chairman at Ariosa. *See* Trial Tr. (1/11/2018) at 796:18-22 (“Q. Dr. Stuelpnagel, what was your position at Ariosa Diagnostics? A. I was the Executive Chairman at Ariosa. Q. Were you a founder at Ariosa? A. Yes, I was.”). He acknowledged that it was he and Oliphant that worked

1 together to develop Ariosa's DANSR assay product. *See id.* at 725:12-15. There can be no
 2 question that Stuelpnagel's role as founder of Ariosa and developer of its products conclusively
 3 establishes privity with Ariosa. *See Vitronics Corp. v. Conception, Inc.*, No. C-91-696-L, 1992
 4 WL 515321, at *5 (D.N.H. July 20, 1992) ("there is no question that privity is established by
 5 virtue of [the inventor-assignor's] position as founder, president and CEO of [Defendant]"); *Eagle*
 6 *Comtronics, Inc. v. Northeast Filter Co.*, No. 90-CV-573, 1991 WL 247551, at *5 (N.D.N.Y. Nov.
 7 22, 1991) (finding privity existed between inventor-assignor and corporation, where corporation
 8 was co-founded by inventor-assignor).

9 Dr. Stuelpnagel further admitted that Ariosa availed itself of his knowledge in evaluating
 10 whether Harmony infringes the '794 Patent. *See* Trial Tr. (1/11/2018) at 702:25-703:3 ("Q. ... A
 11 big part of your work at Ariosa was on the legal side of the business, correct? A. A significant
 12 part of my work included legal work, working with our attorneys."); *id.* at 705:13-15 ("Q. You
 13 were helping the [legal] team; correct? A. I was providing assistance as appropriate, as they
 14 asked, yes."); *id.* at 880:20-880:25 ("I'm adamant [Harmony] does not" "practice[] the '794
 15 patent. . . . The Harmony™ test doesn't infringe the '794."). In *Shamrock Technologies*, under
 16 similar facts, the Court found privity between an inventor assignor and a corporation, where the
 17 inventor-assignor was involved in the corporations' allegedly infringing activities. *See Shamrock*
 18 *Technologies, Inc. v. Med. Sterilization, Inc.*, 903 F.2d 789, 794 (Fed. Cir. 1990). Dr. Oliphant
 19 similarly admitted to working at Ariosa and helping to develop the Harmony test. *See* Trial Tr.
 20 (1/16/2018) at 1058:12-17. And Dr. Stuelpnagel corroborated Dr. Oliphant's role as Chief
 21 Scientific Officer in the development of the Harmony test and the infringing DANSR array. Tr.
 22 741:10-18.

23 No reasonable jury could find that either Drs. Stuelpnagel or Oliphant were not in privity
 24 with Ariosa. Therefore, the doctrine of assignor estoppel extends to Ariosa. *Diamond Sci.*, 848
 25 F.2d at 1224 ("[E]stoppel also operates to bar other parties in privity with the assignor, such as a
 26 corporation founded by the assignor."); *Brocade Comm'ns Sys., Inc. v. A10 Networks, Inc.*, No.
 27 10-CV-03428-LHK, 2012 WL 2326064, at *4 (N.D. Cal. June 18, 2012) (estoppel extends to
 28 infringers who avail themselves "of the inventor's knowledge and assistance to conduct

infringement.”). In *Diamond Scientific*, as here, an inventor had assigned his rights to the inventions claimed in the patent for valuable consideration and had executed an inventor’s oath attesting to his belief in the patentability of the inventions. See *Diamond Sci.*, 848 F.2d at 1225. Holding that assignor estoppel precluded the inventor from later challenging the patent’s validity, the Federal Circuit explained that the inventor “should be estopped from defending patent infringement claims by proving that [what] he assigned was worthless.” *Id.* at 1225. Similarly, in *Carroll Touch, Inc.*, the Federal Circuit held that an inventor who “signed the Oath, Power of Attorney and Petition” and “assigned the patent rights to another for valuable consideration” was estopped from challenging the validity of the patent. *Carroll Touch, Inc. v. Electro Mechanical Sys., Inc.*, 15 F.3d 1573, 1581 (Fed. Cir. 1993) (citations omitted).

Based on the undisputed facts that Drs. Stuelpnagel and Oliphant assigned the ’794 Patent to Illumina for valuable consideration, signed an inventor’s oath attesting to their belief in its validity, and acted in privity with Ariosa, judgment as a matter of law that Ariosa is barred from challenging the validity of the ’794 Patent is justified.

B. Drs. Stuelpnagel And Oliphant Owned An Undivided Interest In The Application That Led To The ’794 Patent And Assigned Their Interest To Illumina Such That Assignor Estoppel Applies

As discussed more fully in Section C, *infra*, the trial evidence has shown that Drs. Stuelpnagel and Oliphant are undoubtedly inventors on the issued claims of the ’794 Patent. This, however, is not required for assignor estoppel to apply. Indeed, the doctrine prevents “one who has *assigned the rights* to a patent (*or patent application*)” or “parties in privity with the assignor, such as a corporation founded by the assignor,” from later challenging the patent’s validity. *Diamond Sci.*, 848 F.2d at 1224. It is undisputed that Ariosa is in privity with Drs. Stuelpnagel and Oliphant. Further, no reasonable jury could determine that Drs. Stuelpnagel and Oliphant did not assign to Illumina their rights to the application that led to the ’794 Patent.

The following facts are undisputed:

- The specification of the application that led to the ’794 Patent included subject matter invented by Drs. Oliphant and Stuelpnagel. See Trial Tr. (1/11/2018) at 867:19-870:9, Trial Tr. (1/16/2018) 1092:23-1094:14.

- 1 • Drs. Stuelpnagel and Oliphant were also admittedly inventors on the claims that
2 were included in the application that led to the '794 Patent. *See* Trial Tr.
3 (1/11/2018) at 853:9-854, Trial Tr. (1/16/2018) 1080:12-18.
- 4 • As such, Drs. Stuelpnagel and Oliphant undisputedly owned an undivided interest
5 in the entire patent and the invention disclosed therein. *See Ethicon Inc. v. U.S.*
6 *Surgical Corp.*, 135 F.3d 1456, 1465 (Fed. Cir. 1998) (“each co-inventor
7 presumptively owns a pro rata undivided interest in the entire patent, no matter
8 what their respective contributions”).
- 9 • Drs. Stuelpnagel and Oliphant then assigned their right, title, and interest not just to
10 the aspects of the patent they now claim to have invented, but the entire invention,
11 including all continuations, divisions, etc. disclosed in the specification. *See* Trial
12 Tr. (1/11/2018) at 738:2-740:1, Trial Tr. (1/16/2018) 1050:4-10.

13 Given these undisputed facts, assignor estoppel applies. By assigning their entire right,
14 title and interest in the invention *as a whole* that was described in the specification, they assigned
15 their interest in the entire invention, regardless of whether they contributed aspects of the
16 invention that they now claim are invalid. Ariosa is thus forbidden from challenging validity.

17 The fact that the claims may have broadened since the original filing to possibly
18 encompass aspects that Stuelpnagel and Oliphant contend they did not invent does not block the
19 application of assignor estoppel. Indeed, the Federal Circuit has explained that just because an
20 assignee “may have later amended the claims in the application process (a very common
21 occurrence in patent prosecutions), with or without [the inventor’s] assistance, does not give [the
22 assignor’s] arguments against estoppel any greater force.” *Diamond Sci. Co. v. Ambico, Inc.*, 848
23 F.2d 1220, 1226 (Fed. Cir. 1988). This is so because “inventors assigned the *rights* to his
24 invention, irrespective of the particular *language* in the claims describing the inventions when the
25 patents were ultimately granted.” *Id.* (emphasis in original); *see also Nortel Networks Inc. v.*
26 *Foundry Networks, Inc.*, No. 01-CV-10442-DPW, 2003 WL 26476584, at *6–7 (D. Mass. Mar.
27 24, 2003) (“Turning to another Foundry argument, the fact that certain claims in the '080 patent
28 were not contained in the originally assigned application does not merit allowing a validity

1 challenge, even one limited to these claims.”).

2 Any argument that experienced industry scientists like Oliphant and Stuelpnagel should
3 not be held to the full scope of estoppel for claims that vary slightly from the originally filed
4 claims is thus without merit. *See, e.g., Nortel*, 2003 WL 26476584 at *6 (“It is illogical that
5 Ferguson, who holds six patents, could interpret an assignment that extends to continuing
6 applications as not encompassing the allegedly additional and new matter, to wit, claims 28 and 30
7 through 33 of the ’080 patent.”).

8 To the extent Ariosa contends it can somehow avoid assignor estoppel because Oliphant
9 and Stuelpnagel’s contribution was supposedly limited to inventing claims 19 and 20 only, Ariosa
10 is incorrect. Courts have repeatedly rejected this argument in view of the Federal Circuit’s
11 guidance in *Diamond Scientific*. *See, e.g., Kreepy Krauly U.S.A., Inc. v. Sta-Rite Indus., Inc.*, 152
12 F.3d 949 (Fed. Cir. 1998) (“Because Sebor contributed only the airfoil design to the claimed
13 invention, Kreepy Krauly argues that Sebor should not be estopped from contending that other
14 aspects of the claimed invention render the claim invalid. We are unpersuaded by this argument,
15 which is made without extended analysis or citation of authority.”); *Carroll Touch v. Electro*
16 *Mechanical Sys.*, 15 F.3d 1573, 1579-81 (Fed. Cir. 1993) (reversing district court that refused to
17 apply estoppel where assigning inventor “testified that his primary contribution to the claimed
18 invention was a device called a dynamic level shifter (DLS), on which a separate patent was later
19 sought and obtained”); *Cedarapids, Inc. v. Johnson Crushers Int’l, Inc.*, No. 3:02:1243, 2005 WL
20 2086755, at *3-4 (M.D. Tenn. Aug. 26, 2005) (applying estoppel even though assigning inventors
21 “did not regard their invention as including [a claimed feature of the patent]”); *Eagle Comtronics,*
22 *Inc. v. Ne. Filter Co.*, No. 90-CV-573, 1991 WL 247551, at *3 (N.D.N.Y. Nov. 22, 1991)
23 (applying estoppel where inventor claimed “that he only signed the declaration with reference to
24 the parts of the invention for which he was directly responsible and that he understood the word
25 ‘invention’ to be the invention covered by these claims only”).

26 **C. No Reasonable Jury Could Find That Drs. Stuelpnagel And Oliphant Are Not**
27 **Inventors**

28 As documented above, Drs. Stuelpnagel and Oliphant do not need to be inventors on the

1 issued claims for assignor estoppel to apply. Yet, even if this were a requirement, Ariosa cannot
 2 meet its burden of showing that they are not properly named inventors. In fact, the trial evidence
 3 resolves as a matter of law that they are inventors.

4 **1. Drs. Stuelpnagel And Oliphant Are Presumptive Inventors**

5 “Patent issuance creates a presumption that the named inventors are the true and only
 6 inventors.” *Caterpillar Inc v Sturman Industries, Inc.*, 387 F.3d 355, 1377. Here, Drs.
 7 Stuelpnagel and Oliphant do not deny that they are listed as inventors on the face of the ‘794
 8 Patent. *See* Trial Tr. (1/11/2018) at 706:22-25 (“Q. So just in terms of the listing on the ‘794
 9 patent, you’re listed there? I understand you have an argument otherwise, but you’re listed there;
 10 correct? A. I am listed on the ‘794 patent.”); Trial Tr. (1/16/2018) at 1049:15-20 (“Q. ... Are you
 11 the Arnold Oliphant who is one of the inventors identified in the ‘794 patent ...? A. I am indicated
 12 as an inventor on that patent.”).

13 Nor do they deny that they signed oaths of inventorship for the application that lead to the
 14 ‘794 Patent. *See* Trial Tr. (1/11/2018) at 731:10-12 (“Q. Okay. Now, with respect to the
 15 application, you signed an oath of inventorship; is that correct? A. To the application I signed an
 16 oath of inventorship, yes.”); Trial Tr. (1/16/2018) at 1049:21-25 (“Q. And did you sign an oath of
 17 inventorship stating that you were an inventor on the subject matter of the disclosure of the ‘794
 18 patent? A. I signed an oath of inventorship for a patent application called the ‘727 patent
 19 application.”)

20 As the presumptive inventors, Drs. Stuelpnagel’s and Oliphant’s trial testimony confirms
 21 they were properly named as such.

22 **2. The Evidence Presented At Trial Confirms That Drs. Stuelpnagel And** 23 **Oliphant Are Inventors**

24 Any contention that Drs. Stuelpnagel and Oliphant are not inventors—despite both
 25 acknowledging their oaths to the contrary—is conclusively resolved by the evidence presented at
 26 trial.

27 First, through videotaped deposition testimony played at trial, Dr. Oliphant admits that he
 28 and Dr. Stuelpnagel contributed a “singular idea” to the ‘794 Patent—“extension and ligation”:

1 Q. But in terms of the original conception of the invention that's described in and
2 claimed in the patent, to your best knowledge, those concepts, the contributors
3 were you and John Stuelpnagel?

4 [A.] ... John [Stuelpnagel] and I had **a singular idea, really, for the invention,
and that was that we could separate the oligonucleotides, do an extension and
ligation**, and that was the basis of the contribution of John and my's conversation.

5 See Trial Tr. (1/16/2018) at 1053:5 (playing Dep. Tr. Oliphant (1/22/2015) at 192:2-11 (Jan. 22,
6 2015) (emphasis added)). Notably, Dr. Oliphant does not limit the "singular" idea to an "allele
7 specific" variant. This "singular idea" is exactly what is embodied in the '794 Patent's claims 19
8 and 20.

9 In seeking to avoid Dr. Oliphant's inculcation that he and Dr. Stuelpnagel are inventors on
10 the '794 Patent, Dr. Stuelpnagel argues that the '794 Patent's claims refer to "substantial
11 complementarity" and that this is antithetical to the "perfect complementarity" required to
12 distinguish between alleles. See Trial Tr. (1/11/2018) at 746:2-10 ("So the key with detecting a
13 single base or multiple bases is you have to have perfect complementarity."); *id.* at 754:24-755:2
14 ("Q. Okay. And does your argument regarding why you're not an inventor of Claim 19—I just
15 want to know that—does that relate to substantial complementarity? A. It does relate to
16 substantial complementarity."). First, Dr. Stuelpnagel's argument directly conflicts with Dr.
17 Oliphant's testimony, that their singular invention is to "extend" and "ligate" in the multiplex
18 array process. See Trial Tr. (1/16/2018) at 1053:21-25. But even overlooking Dr. Oliphant's
19 testimony, Dr. Stuelpnagel's argument also conflicts with the definition of "substantial
20 complementarity" presented in the '794 Patent's specification—**one he confirmed under oath was
21 correct**—"that the probes are sufficiently complementary to the target sequences to hybridize
22 under the selected reaction conditions." See Trial Ex. 513 (Tr. Ex. 513-023) at 10:15-18.

23 When asked about this glaring contradiction, Dr. Stuelpnagel admitted that he did not
24 object to the definition of "substantial complementarity" that was contained in the application for
25 the '794 Patent. See Trial Tr. (1/11/2018) at 756:22–757:1. Instead, he attempted to explain the
26 inconsistency by stating he "didn't pay attention to it" and that he "didn't spend many, many hours
27 reviewing the specification" and only "briefly reviewed the patent [application]." See Trial Tr.
28 (1/11/2018) at 757:3, 757:12-13. By feigning ill-preparedness, Dr. Stuelpnagel tellingly avoids

1 having to reconcile his argument that claims 19 and 20 require perfect complementarity, despite
2 the Patent's statements to the contrary--statements he confirmed under oath were correct.

3 Second, in view of his dispositive deposition admissions, Ariosa failed to present any
4 evidence at trial from Dr. Cantor, its expert on inventorship, to rebut Dr. Oliphant's admission. As
5 Dr. Cantor stated, he "had an opinion on inventorship" but would not be presenting it at trial. *See*
6 Trial Tr. (1/18/2018) at 1512:22-25.

7 Dr. Cantor's admissions eliminated Ariosa's argument that Drs. Stuelpnagel and Oliphant
8 are not inventors. First, Dr. Cantor acknowledged that claim 1 of the '794 Patent practiced the
9 GoldenGate assay. *See id.* at 1495:4-23. Coupled with the testimony of Arnold Oliphant and John
10 Stuelpnagel confirming that they invented GoldenGate (*see* Trial Tr. (1/11/2018) at 741:23-742:1;
11 Trial Tr. (1/16/2018) at 1050:1-5), there can be no doubt that they are inventors of claim 1.
12 Second, and even more compelling, Dr. Cantor confirmed point blank that Figure 13 corresponds
13 to claim 19

14 Q. And if you look at Figure 13, please, the figures have a different expression
15 form than written word. ...

16 A. Yes. So that's – **Figure 13 corresponds to what you just had me read in**
17 **the text and corresponds to Claim 19.** Assuming that we have a ligation step
18 here, which is not shown explicitly, but I'll grant them.

19 Q. But at the top, let me direct you to it. Do you see –

20 A. Oh, now I see they say ligates, yeah. All right. I missed it.

21 Trial Tr. (1/18/2018) at 1513:1-6 (playing Depo. Tr. Cantor (7/24/2017) at 47:12-48:2). At trial
22 both Drs. Stuelpnagel and Oliphant admitted that the '794 Patent's Figure 13 encompasses their
23 invention. *See* Trial Tr. (1/16/2018) at 1094: 7-12 ("Q. Okay. And based on the description of
24 Figure 13 – Let's stay away from the figure, because I understand you say it's confusing. With
25 respect to the description, that describes your invention; doesn't it? A. I – I believe it does.");
26 Trial Tr. (1/11/2018) at 870:4-9 ("Q. Did you confirm that Figure 13 – that that's your invention in
27 the '794 patent, in Figure 13? ... A. Yeah. Figure 13 is, I believe, my invention in the patent
28 specification."). By admitting that Figure 13 corresponds to claim 19 of the '794 Patent, Dr.
Cantor concedes that Drs. Oliphant and Stuelpnagel are inventors on the '794 Patent.

While Ariosa failed to present any independent expert witness testimony rebutting

1 inventorship, Illumina presented conclusive evidence supporting it. Illumina's expert, Dr. Cooper,
 2 established that the '794 Patent is embodied in the Golden Gate assay. *See* Trial Tr. (1/16/2018) at
 3 988:15-18. Both Drs. Stuelpnagel and Oliphant admit that they are inventors of the Golden Gate
 4 assay. *See* Trial Tr. (1/11/2018) at 768:11-14 ("Q. ... So in terms of the Golden Gate assay, you
 5 acknowledge you had an important invention at the center of that; correct? A. Correct."); Trial
 6 Tr. (1/16/2018) at 1058:3-4 ("I developed the genetic genotyping system marketed as Golden
 7 Gate[.]"). During his rebuttal testimony, after Dr. Oliphant testified, Dr. Cooper testified:

8 And, Dr. Olipahnt, in this deposition testimony, clearly testifies to the fact that he
 9 believes he, along with Dr. Stuelpnagel, are inventors on Golden Gate. And so it
 10 simply stands to reason they invented Golden Gate. Golden Gate embodies the
 '794. That makes them inventors on the '794.

11 *See* Trial Tr. (1/18/2018) at 1591:11-15.

12 Because Drs. Stuelpnagel and Oliphant are inventors of the Golden Gate assay and the
 13 Golden Gate assay is an embodiment of the '794 Patent, Drs. Stuelpnagel and Oliphant must be
 14 inventors on the '794 Patent. Besides Drs. Stuelpnagel and Oliphant's inventorship as tied
 15 through the Golden Gate assay, Dr. Cooper presented a second means of tying Drs. Stuelpnagel
 16 and Oliphant to the '794 Patent. Specifically, Dr. Cooper testified the allele specific extension and
 17 ligation that Drs. Stuelpnagel and Oliphant introduce in an attempt to circumvent their prior
 18 inculpatory admissions of inventorship is indeed in the '794 Patent as well. *See* Trial Tr.
 19 (1/18/2018) at 1592:17-1593:21. Alle-specific extension and ligation is at a minimum embodied
 20 in the '794 Patent's claims 19 and 20, and Figure 13. *See* Trial Tr. (1/18/2018) at 1593:22-1594:9.
 21 Therefore, Drs. Stuelpnagel and Oliphant are properly inventors of the '794 Patent. *See id.*

22 **D. Even If Drs. Stuelpnagel And Oliphant Invented Only Allele-Specific**
 23 **Extension And Ligation, They Are Still Inventors**

24 Even if Drs. Stuelpnagel and Oliphant are assumed to have invented *only* an "allele-
 25 specific" variant of extension and ligation, they are still inventors. It is undisputed that allele-
 26 specific extension and ligation is a preferred embodiment of the claimed invention. Simply
 27 because Oliphant and Stuelpnagel may have only originally conceived of using extension and
 28 ligation for an allele-specific application does not mean they did not make a substantial

1 contribution to the claims of the '794 patent. It simply means that the other individuals named as
 2 inventors on the patent conceived of the broader concept of using extension and ligation for things
 3 that were not allele-specific. It defies logic to suggest that this would void Oliphant's and
 4 Stuelpnagel's status as inventors on the '794 patent.

5 **E. Drs. Stuelpnagel And Oliphant Have Never Before Denied His Inventorship**

6 Finally, the circumstances surrounding the timing of Ariosa's contentions underscores the
 7 implausibility of its claim. Dr. Stuelpnagel has never before challenged his status as an inventor
 8 dating back to the time the '794 Patent issued. *See* Trial Tr. (1/11/2018) at 725:16-19 ("Q. Okay.
 9 Did you take any steps at that point in time [when the '794 patent issued] to inform anyone at
 10 Illumina that you thought that this patent had the wrong inventor on it? A. No, I did not."). Nor
 11 did he ever seek to correct the public record of inventorship before this lawsuit was filed:

12 Q. ... And in terms of when you started denying that you were an inventor of the
 13 '794 patent, did you express that to Illumina or take any action to change the
 14 inventorship through any of the legal avenues before the suit was brought against
 you, this action, where the '794 was asserted?

15 A. No, I don't believe that there was – I don't believe ... I put any effort into
 16 correcting inventorship before the lawsuit was filed.

17 *See* Trial Tr. (1/11/2018) at 726:7-15. And he admitted that the reason he denies inventorship now
 18 is to enable Ariosa to challenge the validity of the '794 Patent:

19 Q. In terms of your understanding, your understanding is that if you are an
 20 inventor on the patent, then you can't challenge [validity] ... But if you can get
 off the patent, then you can challenge the validity of it; correct?

21 A. That's my understanding.
 22

23 *See* Trial Tr. (1/11/2018) at 733:15-20. In fact, Dr. Stuelpnagel readily admitted that he wanted
 24 Ariosa to be able to challenge the validity of the '794 Patent. *See* Trial Tr. (1/11/2018) at 734:4-7
 25 ("Q. Okay. And so you wanted Ariosa and now Roche to be able to challenge the [v]alidity of the
 26 '794 patent; right? A. Well, certainly I want that[.]"). While Ariosa has not sustained its "clear
 27 and convincing" burden that neither Drs. Stuelpnagel nor Oliphant are inventors, it is "clear and
 28 convincing" that Dr. Stuelpnagel denies inventorship solely so Ariosa can challenge the validity

1 of the '794 Patent. But no reasonable jury could find that Dr. Stuelpnagel is not actually an
2 inventor.

3 **IV. CONCLUSION**

4 For the foregoing reasons as well as the reasons Illumina has previously set forth in its
5 prior submissions to the Court, Illumina respectfully seeks an order that bars Ariosa from
6 challenging the validity of the '794 Patent pursuant to the doctrine of assignor estoppel.

7
8 Dated: January 22, 2018

Respectfully submitted,

9 WEIL, GOTSHAL & MANGES LLP

10 By: /s/ Edward R. Reines
11 Edward R. Reines

12 *Attorneys for Plaintiffs and*
13 *Counterclaim Defendants*

14 ILLUMINA, INC. and VERINATA HEALTH, INC.
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